

WHAT IS CLAIMED IS:

1. A server blade comprising a blade enclosure, the server blade being configured to be receivable as a field replaceable unit in a carrier of a blade server system.
- 5 2. The server blade of claim 1, comprising at least one processor within the blade enclosure.
3. The server blade of claim 1, comprising random access memory within the  
10 blade enclosure.
4. The server blade of claim 1, comprising a service controller within the blade enclosure providing system management functions.
- 15 5. The server blade of claim 1, comprising a storage device within the blade enclosure.
6. The server blade of claim 1 comprising connections accessible externally to the blade enclosure.
- 20 7. The server blade of claim 6, wherein the blade enclosure comprises a plurality of faces, the connections being located on one of the faces.
8. The server blade of claim 7, wherein the connections include at least one  
25 information signal connection.
9. The server blade of claim 7, wherein the connections include at least one system management signal connection.

10. The server blade of claim 7, wherein the connections include at least one power connection.
11. The server blade of claim 7, wherein the blade enclosure has a narrow elongate form with the connections located on an end face of the blade enclosure.
12. The server blade of claim 7, wherein the blade enclosure is slab-shaped with two opposing side faces, two end faces, an upper face and a lower face, wherein:  
the side faces and the top and bottom faces have substantially the same length, but the side faces are narrower than the top and bottom faces;  
the end faces have a length substantially equivalent to the width of the side faces and a width substantially the same as the width of the top and bottom faces; and  
the connections are located on one of the end faces.
13. The server blade of claim 7, wherein the blade enclosure is slideably mountable in the carrier with the connectors being located on face of the blade enclosure that is inserted first into the carrier.
14. The server blade of claim 7, wherein a face of the blade enclosure on which the connections are located and an opposing face of the blade enclosure both include ventilation openings, the blade enclosure further enclosing a fan operable to move cooling air within the blade enclosure.
15. The server blade of claim 7, wherein a face of the blade enclosure opposing a face on which the connections are located carries server blade status indicators.

16. The server blade of claim 1, comprising an injector lever mechanism for facilitating insertion and removal of the information processing module.
17. The server blade of claim 1, wherein the blade enclosure is formed from conductive material.
18. A carrier for a blade server system comprising a carrier enclosure that includes at least one blade receiving location configured removably to receive a field replaceable and enclosed server blade.
19. The carrier of claim 18, wherein the carrier is further operable to receive at least one power supply operable to supply DC operating power, at least one switch operable to distribute information signals; and at least one service processor operable to distribute system management signals.
20. The carrier of claim 18, comprising at least one power supply module receiving location configured to receive a field replaceable power supply.
21. The carrier of claim 18, comprising two power supply module receiving locations, each power supply module receiving location being configured to receive a field replaceable power supply.
22. The carrier of claim 18, comprising at least one support module receiving location configured to receive a field replaceable switch.
23. The carrier of claim 18, comprising at least one support module receiving location configured to receive a field replaceable service processor.

24. The carrier of claim 18, comprising at least one support module receiving location configured to receive a field replaceable combined switch and service processor module.
- 5 25. The carrier of claim 24, comprising two support module receiving locations, each support module receiving location being configured to receive a removable combined switch and service processor module.
26. The carrier of claim 18, comprising a plurality of blade receiving locations,  
10 each blade receiving location being configured to receive a server blade.
27. The carrier of claim 26, wherein at least some of the blade receiving location locations are open to each other, shielding between the blade receiving locations being provided by server blade enclosures.
- 15 28. The carrier of claim 26, wherein the server blade locations include guides for guiding server blade into the server blade receiving location.
29. The carrier of claim 18, comprising a connection plane carrying conductive  
20 paths interconnecting carrier connectors for carrying power, information signals and system management signals.
30. The carrier of claim 29, wherein the connection plane is a midplane.
- 25 31. The carrier of claim 30, wherein the blade receiving locations are located at a first face of the midplane and a location for receiving a module for at least one of a power supply, a switch and a service processor is located at a second face of the midplane.

32. The carrier of claim 31, wherein locations for a plurality of power supply modules and a plurality of combined switch and service processor modules are located at the second side of the midplane.
- 5 33. The carrier of claim 30, wherein the midplane is a printed circuit board and the conductive paths comprise tracks on the midplane.
34. The carrier of claim 29, comprising a plurality of blade receiving locations having an opening in the first face and a plurality of receiving locations that  
10 each have an opening in the second face for receiving a field replaceable modules, the connection plane having connectors for each receiving location and conductive paths for interconnecting the connectors.
35. The carrier of claim 28, wherein the connection plane is a passive component.  
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36. The carrier of claim 28, wherein the connection plane carries passive components only.
37. The carrier of claim 18, further comprising at least one indicator board  
20 carrying status indicators.
38. The carrier of claim 18, configured as a rack mountable shelf.
39. The carrier of claim 38, comprising fixings for mounting the carrier in a  
25 racking system.
40. A rack mountable shelf forming a carrier for a blade server system, the rack mountable shelf comprising a carrier enclosure that includes at least one blade

receiving location configured removably to receive a field replaceable and enclosed server blade.

41. The rack mountable shelf of claim 40, further configured to receive at least  
5 one power supply operable to supply DC operating power, at least one switch operable to distribute information signals; and at least one service processor operable to distribute system management signals.
42. The rack mountable shelf of claim 40, wherein a first face of the carrier  
10 enclosure forms a front of the rack mountable shelf and a second face of the carrier enclosure forms a rear of the rack mountable shelf.
43. The rack mountable shelf of claim 40, further comprising at least one field  
15 replaceable server blade module operable to perform information processing, at least one field replaceable power supply module operable to supply DC operating power, at least one field replaceable combined switch and service processor module operable to distribute information signals and to process system management signals, each of said modules being removably received in a corresponding receiving location in the carrier enclosure.  
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44. The rack mountable shelf of claim 43, comprising a selectable number of  
between one and sixteen server blade modules, two field replaceable power supply modules and two field replaceable combined switch and service processor modules, each of said modules being removably received in a  
25 corresponding receiving location in the carrier enclosure.
45. The rack mountable shelf of claim 44, further comprising a front field replaceable indicator board and a rear field replaceable indicator board removably received within the carrier enclosure.

46. The rack mountable shelf of claim 43, wherein the shelf comprises an external power inlet to each field replaceable power supply module, and external information signal connections and external management signal connections to each field replaceable combined switch and service processor module.
47. A rack mountable shelf configured to support a plurality of field replaceable server cartridges, each server cartridge comprising a cartridge enclosure.
48. The rack mountable shelf of claim 46, configured to provide communal services for the server cartridges, including at least one of supplying DC operating power to the server cartridges, distributing information signals between the server cartridges and distributing system management signals for the server cartridges.
49. The rack mountable shelf of claim 47, wherein each of the server cartridges is slideably mounted in a respective receiving location in the front of the shelf.
50. The rack mountable shelf of claim 49, wherein the server cartridges are received in respective server cartridge receiving locations arrayed side by side along the front of the shelf.
51. The rack mountable shelf of claim 49, wherein at least some of the server cartridge receiving locations are open to each other, shielding between received server cartridges being provided by the cartridge enclosures.
52. The rack mountable shelf of claim 47, wherein the server cartridges are configured as thin blades to provide a high server density.

53. The rack mountable shelf of claim 48, wherein the supplying of DC operating power to the server cartridges is provided by at least one field replaceable power supply unit mounted in the shelf, the distributing of information signals between the server cartridges is provided by at least one switch mounted in the shelf and the distribution of system management signals for the server blade modules is provided by at least one field replaceable service processor mounted in the shelf.
54. The rack mountable shelf of claim 53, wherein each field replaceable power supply unit is formed by a power supply module slideably received in a respective receiving location at the rear of the shelf.
55. The rack mountable shelf of claim 53, comprising a combined switch and service processor module containing at least one said switch and at least one said service processor unit, each combined switch and service processor module being slideably received in a respective receiving location at the rear of the shelf.
56. The rack mountable shelf of claim 53, further comprising a midplane comprising connectors with conductive paths therebetween to provide power, information signal and system management signal connections between received field replaceable units.
57. A computer server system comprising at least one rack mountable shelf, the rack mountable shelf being configured to support a plurality of field replaceable server cartridges, each server cartridge comprising a cartridge enclosure.



58. A rack mounted computer server system comprising a rack frame and, mounted in the rack frame, at least one rack mountable shelf, the rack mountable shelf being configured to support a plurality of field replaceable server cartridges, each server cartridge comprising a cartridge enclosure.
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59. A high density computer server system comprising at least one rack frame with, mounted in each rack frame, at least one rack mountable shelf, the rack mountable shelf being configured to support a plurality of field replaceable server cartridges, each server cartridge comprising a cartridge enclosure.
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60. A method of providing high density computer services, the method comprising:  
providing a rack mountable shelf configured to support a plurality of field replaceable units in the form of server cartridges; and  
15 providing each server cartridge with a cartridge enclosure.
61. The method of claim 60, including providing communal services for the server cartridges in the shelf, the communal services including at least one of supplying DC operating power to the server cartridges, distributing  
20 information signals between the server cartridges and processing system management signals for the server cartridges.
62. The method of claim 60, including removably mounting a selected number of the server cartridges in respective receiving locations in the front of the shelf  
25 to provide a required processing power.
63. The method of claim 60, wherein the server cartridges are mounted in respective server cartridge receiving locations arrayed side by side along the front of the shelf.

64. The method of claim 60, wherein the server cartridges are configured as blades to provide a high server density.
- 5 65. The method of claim 60, wherein up to 16 server cartridge are receivable in respective receiving locations provided across the front of the shelf.
66. The method of claim 60, wherein the server cartridge enclosures provide shielding and protection for components of the server cartridge.
- 10 67. The method of claim 60, wherein said supplying of DC operating power to the server cartridges is provided by at least one field replaceable power supply unit mounted in the shelf, said distributing of information signals between the server cartridges is provided by at least one switch unit mounted in the shelf and said processing of system management signals for the information  
15 processing modules is provided by at least one field replaceable service processor unit mounted in the shelf.
68. The method of claim 60, comprising receiving at least one power supply  
20 module and at least one combined switch and service processor module in receiving locations at the rear of the shelf.
69. The method of claim 60, further comprising interconnecting inserted field replaceable units via a passive midplane.
- 25 70. A server blade comprising a blade enclosure means, the server blade being configured to be receivable as a field replaceable unit in a carrier of a blade server system.

SUN REF: P5638

71. A carrier for a blade server system comprising carrier enclosure means for providing at least one blade receiving location configured removably to receive field replaceable and enclosed server blade means.